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IDEALIST

Attachment #1  
BYE 2024/65

1 December 65

MEMORANDUM FOR THE RECORD

SUBJECT : IDEALIST Camera Configurations

1. Tracker

A light weight 35 mm tracker camera has been designed built and test flown in the IDEALIST vehicle. The camera is a panoramic rotating mirror type employing a 2" f 2.3 lens of 80 lines per millimeter. The camera covers a swath of 180° by 28° at a scale of 1/420,000. The camera weighs less than 12 lbs. and has dimensions of 11 3/8" x 14 1/2" x 7 11/16". Test flights of the prototype were satisfactory. The production models will be delivered at a rate of three per month starting in December 1965. A table top viewing station is included in this development that provides a 4x enlargement of the film being scanned.

2. Delta III

Two of the four Delta II cameras have been converted to Delta III models and are currently located at Detachment H. The remaining two have been returned to Itek for conversion. They are scheduled for completion in late February.

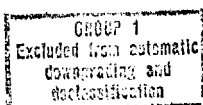
3. Light Weight "B" Camera

The Hycon "B" camera is being redesigned to reduce weight and improve performance. The new camera will weigh 90 lbs. less than the present model and will include improved film transport, mirror mounts and indexing head servo system. It is expected that these improvements will maintain the present reliability and increase the ground resolution by about twenty five per cent.

4. FD 4 Infra Red Scanner

An infra red scanner designed and built by Texas Instruments has been installed and flight tested in the U-2 for use in identifying areas of high thermal energy such as

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nuclear test and production sites. The scanner weighs 120 lbs., uses 3.5 inch x 75 feet Tri X film and scans a total field of view of 100°, about 28 miles from 70,000' altitude. Objects being viewed must be at least 35 feet apart before they can be identified as two rather than one image. The scan rate is 100 times per second. Since the aircraft advances about 7 feet during one scan, each object is seen by the scanner five times before moving out of the field of view. A television-like thermal record is produced that resembles a strip camera record.

5. "H" Camera

The "H" camera is a spotting camera for high resolution, high altitude photography where lateral coverage is traded off for maximum resolution. A 66"f/5.0 lens is employed, giving a 4.5"x 4.5" format covering .78 N.M. SQUARE on the vertical. The camera weighs 617 lbs. and is controlled by the drift sight hand control. 2000' of 5" film, giving 4800 exposures, is available. The camera can be pointed at 70° either left or right of the flight path - 31.6 N. Miles. Since the camera is referenced to true vertical and the drift sight is referenced to the aircraft, the optical axis of the camera and the drift sight will coincide only when the vehicle is in the proper flight attitude, and the axes will vary by the amount of roll pitch and yaw components that are introduced.



Sensor Systems Division  
(Special Activities)

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